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Research Category: VDHR-NWW

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Project Title: Mapping Fusarium Head Blight Resistance in Truman Wheat.

PROJECT 2 ABSTRACT

(1 Page Limit)

Approximately 250 recombinant inbred lines (RIL) from the cross Truman/MO 94-317 have been planted in the scab nursery near Lexington, KY and at locations in MO, IN, and OH. These lines will be evaluated for incidence of infection, percentage of Fusarium damaged kernels, and DON level. Specifically, incidence will be assessed on a random 20 head sample as the percentage of heads in the sample showing any FHB symptoms. Heads will then be assessed for severity as the mean percentage of diseased spikelets on the 20-head sample. Field scab index will be determined for each RIL as incidence x severity. Accurately characterizing the phenotype of the lines is essential if the resistance genes are to be mapped accurately. Phenotypic data from all locations will be compiled and analyzed with the genotypic data in MO. The hoped-for "deliverable" from this collaborative study will be DNA markers linked to the Truman resistance genes. The advantage of this collaborative approach is that the phenotypic data will be collected in less than half the time that would be required if just one program were doing the research. Breeders will then be able to use these markers to screen segregating populations and advance potentially resistant lines carrying the Truman resistance to the scab nursery.